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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,042	02/03/2004	Shih-Ping Hsu	LA-7452-108.US	3898
167	7590	08/03/2005	EXAMINER	
FULBRIGHT AND JAWORSKI LLP 555 S. FLOWER STREET, 41ST FLOOR LOS ANGELES, CA 90071			CHERVINSKY, BORIS LEO	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/772,042

**Applicant(s)**

HSU ET AL.

**Examiner**

Boris L. Chervinsky

**Art Unit**

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-8, 9, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juskey et al. in view of Edwards et al.

Juskey discloses a semiconductor package with a heat sink structure 20 with embedded electronic component 16, comprising: a substrate 10 having a first surface and a second surface; at least one semiconductor chip 16 mounted on and electrically connected to the first surface of the substrate; a heat sink 20 having an upper surface and a lower surface, with the lower surface attached to the first surface of the substrate 10 and formed with a recessed cavity thereon, allowing at least one electronic component to be embedded in the recessed cavity; and a plurality of conductive elements 23 mounted on the second surface of the substrate for electrically connecting the semiconductor package to an external device; a continuous protruded portion is formed at the periphery on the lower surface of the heat sink 20; the heat sink is made of a highly conductive and rigid material. Juskey discloses the claimed invention except a plurality of the cavities and components and having various functionalities. Edwards discloses the plurality of cavities and active or passive components that is selected from

the group consisting of resistor, capacitor, inductor and chip-type passive component (col. 3, lines 45-49); a resin compound 71 is filled in the space between the heat sink and the substrate, therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a plurality of components as disclosed by Edwards in the device disclosed by Juskey to accommodate more components in less space and expand functionality of the device.

2. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juskey et al. in view of Edwards et al. and further in view of Dolbear.

Juskey and Edwards disclose the claimed invention except at least one through hole at a position for receiving the semiconductor chip.

Dolbear discloses the heat sink 46, which has a through hole 72 at a position for receiving the semiconductor chip. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have the through hole as disclosed by Dolbear in the structure disclosed by Juskey et al. and Edwards et al. for accessing the semiconductor chip without removing the heat sink.

### ***Response to Arguments***

1. Applicant's arguments, see Page 2, lines 21-23, filed 6/28/05, with respect to the rejection(s) of claim(s) 1, 3-9, 11-14 under 35 U.S.C. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Juskey et al., which discloses embedded component.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 571-272-2039. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2800 ext. 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**BORIS CHERVINSKY**  
**PRIMARY EXAMINER**

*Boris L. Chervinsky*  
8/2/5